

AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-7 are canceled.

8. (New) Microfluidic device comprising at least one microchannel designed to contain at least one liquid and at least one fluid non-miscible with the liquid and means for stabilizing the interface between the liquid and the fluid, said microchannel being bounded by a bottom wall, side walls and a top wall, microfluidic device wherein the means for stabilizing comprise at least one electrode arranged on at least one part of a first wall of the microchannel, over the entire length thereof, and at least one counter-electrode arranged over the entire length of the microchannel, on at least one part of a second wall arranged facing the electrode.

9. (New) Microfluidic device according to claim 8, wherein the counter-electrode is arranged on the whole of the second wall.

10. (New) Microfluidic device according to claim 8, wherein the electrode and counter-electrode are respectively arranged on the bottom and top wall.

11. (New) Microfluidic device according to claim 8, wherein the electrode and counter-electrode are respectively arranged on the side walls.

12. (New) Microfluidic device according to claim 8, wherein the fluid or liquid being electrically conducting, the microfluidic device comprises insulating means arranged between the electrode or counter-electrode and said fluid or said liquid.
13. (New) Microfluidic device according to claim 8, wherein the fluid flows in the microchannel in an opposite direction to that of the liquid
14. (New) Microfluidic device according to claim 8, wherein the microchannel comprises, at least at one end, two end microchannels designed for the fluid and the liquid to respectively flow therethrough.